

Date: Thursday, 14/08/2008 9:26:10 AM  
User: Linda Lacelle

### Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : AFT X-TUBE EXT HEIGHT.GEAR
<b>Job Number</b> : 41230	
<b>Estimate Number</b> : 10421	
<b>P.O. Number</b> :	<b>Part Number</b> : D205596103
<b>This Issue</b> : 14/08/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D205-596-103
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : 14/08/2008 <b>Type</b> : CROSSTUBES	<b>Drawing Revision</b> : B
<b>Previous Run</b> : 41229	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 29/08/2008 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>JUD 08.8.14</u>	
<b>Comment</b> : Est Rev:G 05.06.10 Acid etch moved to Step 11KJ/JLM Est RevH 08-01-10 ECN 1075 DD Est Rev F 08.04.28 Added bending & mat'l EC verified by: DD	

#### Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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JUD 08-8-26



**Comment:** DOCUMENT CONTROL

Photocopy D205-594 bluefile & type labels per PPP D205-596-103 CHG002

2.0	D6008180	Crosstube Extrusion
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Extrusion

Batch: B40271

DP 8-8-25

3.0	BENDING CROSS	BENDING MACHINE - CROSSTUBES
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**Comment:** BENDING MACHINE - CROSSTUBES

Bend as per dwg D2890 using CNC bender program

DP 8-8-25

4.0	CROSSTUBES	CROSSTUBES RESOURCE 1
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**Comment:** LANDING GEAR RESOURCE 1

1-Mark 37.30" for cutting from tangential line in the straight section from D2890 as per Dwg wall template.

DP 8-8-25

5.0	QC15	DIMENSIONAL CHECK OF X-TUBES
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**Comment:** DIMENSIONAL CHECK OF X-TUBES

08-06-25 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT X-TUBE EXT HEIGHT GEAR

Job Number: 41230

Part Number: D205596103

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut as per Dwg D205-596-103

M 8-8-25

AWM  
8-8-26

2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

7.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

S 08/08/07 @

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

TOUCH UP Chemical Conversion Coat as per QSI 005 4.1

8-8-27  
AWM

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/08/07 @

10.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside with Immron per QSI 005 4.2

ml 08 09 04 (1)

11.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

08-09-05 (1)

12.0

D3595063530

RUBBER CUSHION



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

RUBBER CUSHION

batch 39255

ml 08 09 05

B 41230 D 205-596-103

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Drawing Name: AFT X-TUBE EXT HEIGHT GEAR

Job Number: 41230

Part Number: D205596103

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)  
clamp(per MIL-DTL-8783C)  
batch 108847

ml 08 09 05

14.0

D29401

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)  
Pick:  
Qty Part number Description Batch  
2 D2940-1 Support 40753

ml 08 09 05

15.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

2- Apply magnobond 6398 as per dwg D205-596-103

Magnobond 6398 Batch: 108966

Time 10:15am EXP: 10/2009

3- Install supports and clamps per Dwg D205-596-103. Torque clamps to 80-100 in lb. as per dwg

ml 08 09 05 (1)

ml 08 09 08 (1)

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08-09-08

17.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-596-103

Location: G

08/09/08 (1)

18.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/09/09

Job Completion



mf 08-09-09

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

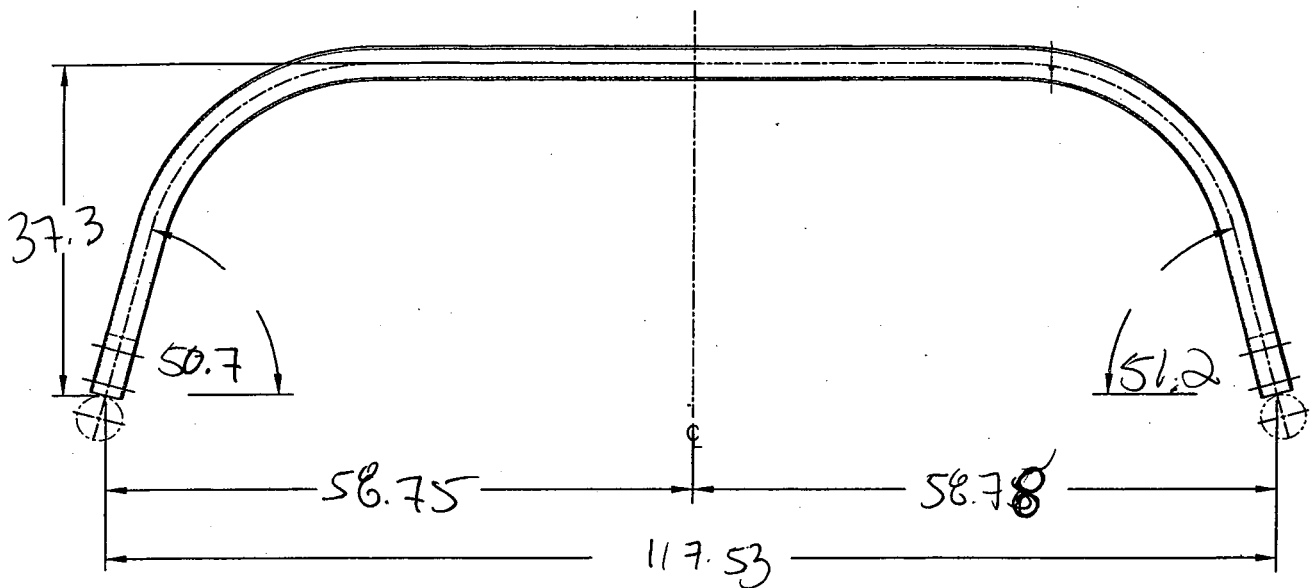
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**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	-41230-
Description: Crosstube High-High Aft		Part Number:	D205-596-103
Inspection Dwg: D205-596-103 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	37.2	37.4
1/2 Span	58.7	58.9
Angle	49	52
Total Span	117.4	117.8



Comments

QC15 Inspection	
Date	08-06-25

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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**PARTS LIST:**

Qty	Part Number	Description
X	D205-596-103	CROSSTUBE ASSEMBLY, HI-HI AFT
1	D6008-180	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

**GENERAL NOTES:**

- 1) MATERIAL: MANUFACTURE FROM D6008-180  
FINISHED LENGTH = 146.98 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH  
VIBRATING STYLUS
- 7) WEIGHT: 55 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO  
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT  
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION  
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1  
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE  
CROSSTUBE SUPPORT.  
**NOTE:** IT IS ACCEPTABLE TO SUBSTITUTE MS21920-28 CLAMPS WITH LONGER OR SHORTER  
MS21920-XX CLAMPS TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF  
1.5 THREADS IN SAFETY ON THE NUTS.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

SHOP COPY  
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WITHOUT NOTICE  
WORK ORDER  
NO. 41230

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-1009 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-530 CUSHION	MB	07.12.03
A	NEW ISSUE	DS	02.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	<b>DART AEROSPACE LTD</b>	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D205-596-103	SHEET 1 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE ASSEMBLY, HI-HI AFT	NTS
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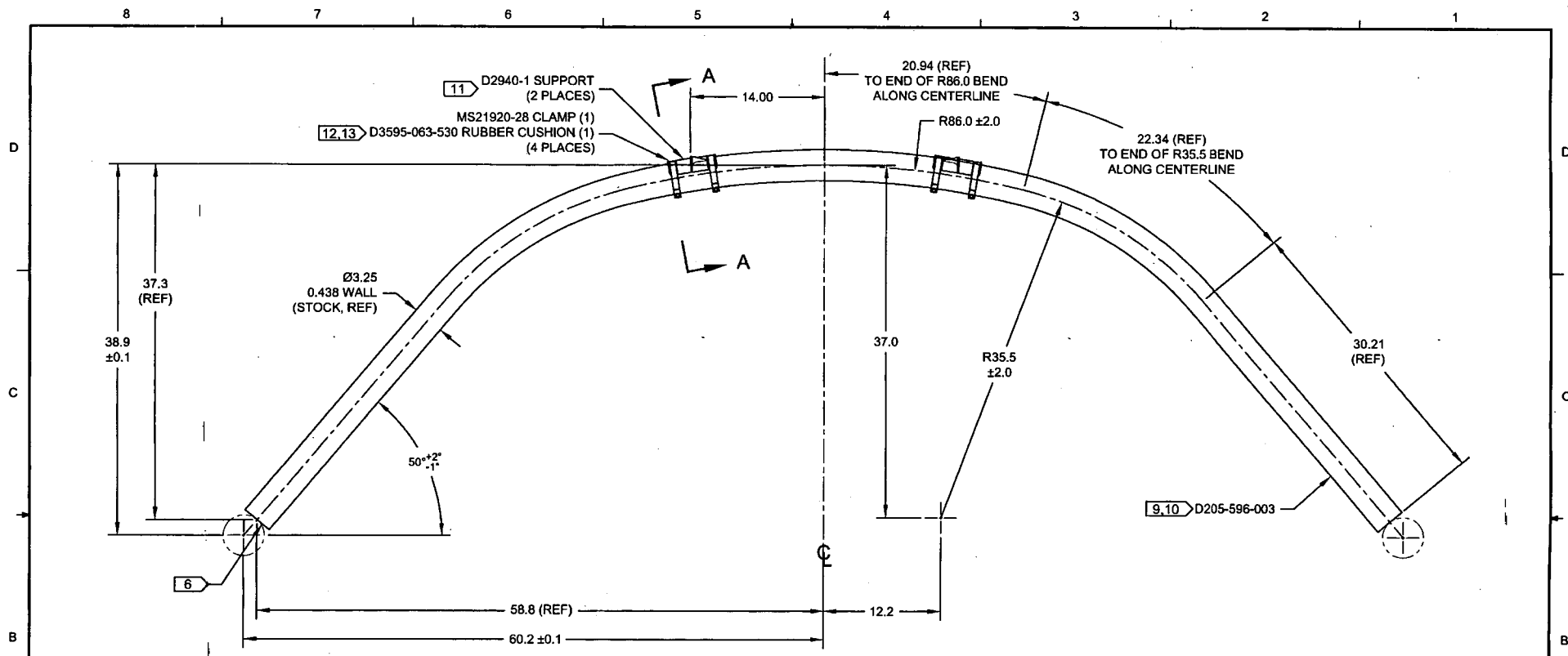
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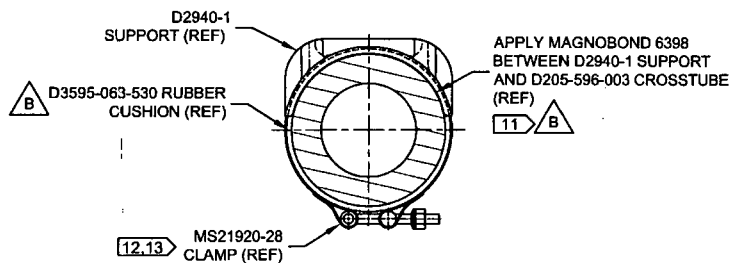
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**D205-596-103 CROSSTUBE ASSEMBLY, HI-HI AFT**



**SECTION A-A**  
SCALE 2:5

RELEASED  
11/08/01/16/10/0

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D205-596-103	SHEET 2 OF 2
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DE APPR.		CROSSTUBE ASSEMBLY, HI-HI AFT	1:10
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**Dart Aerospace Ltd**

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